IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants:	Kemal GULER et al.	§	Confirmation No.:	3759
Serial No.:	10/694,589	§	Group Art Unit:	3696
Filed:	10/27/2003	§	Examiner:	M. D. Cranford
For:	Analyzing Auction Data Having A Varying Number of Bidders	§	Docket No.:	200208419-1

APPEAL BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Date: May 1, 2009

Sir:

Appellants hereby submit this Appeal Brief in connection with the above-identified application. A Notice of Appeal was electronically filed on April 1, 2009.

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, L.P. (HPDC), a Texas Limited Partnership, having its principal place of business in Houston, Texas. HPDC is a wholly owned affiliate of Hewlett-Packard Company (HPC). The Assignment from the inventors to HPDC was recorded on October 27, 2003, at Reel/Frame 014645/0172.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals or interferences.

III. STATUS OF THE CLAIMS

Originally filed claims:	1-19.
Claim cancellations:	None.
Added claims:	None.
Presently pending claims:	1-19.
Presently appealed claims:	1-19.

IV. STATUS OF THE AMENDMENTS

No claims were amended after the final Office Action dated February 5, 2009.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

This section provides a concise explanation of the subject matter defined in each of the independent claims, referring to the specification by page and line number or to the drawings by reference characters as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified with a corresponding reference to the specification or drawings where applicable. The specification references are made to the application as filed by Appellants. Note that the citation to passages in the specification or drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element. Also note that these specific references are not exclusive; there may be additional support for the subject matter elsewhere in the specification and drawings.

In accordance with the invention of claim 1, a method of analyzing auction data comprises organizing previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders, the number of bidders varying among the sub-samples.[1] The method further comprises applying an inverse bid function to at least two sub-samples,[2] pooling results from applying the inverse bid function to form a first pool,[3] applying a direct bid function on the first pool to generate sample bids[4] matching bids from at least one sub-sample to the sample bids,[5] and pooling results from the matching with the first pool to form a second pool.[6]

In accordance with the invention of claim 5 a method comprises organizing previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of

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[1] Fig. 2 (66, 68). Fig. 3 (100a-c). Disclosure p. 6 lines 1-24 of para. [0024].

[2] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[3] Fig. 2 (82). Fig. 3 (108). Disclosure p. 7 lines 11-13 of para. [0026]. Page 8 lines 5-10.

[4] Disclosure p. 3 lines 1-10 of para. [0011]. Page 26 line 1 of para. [0026] through line 9 of para. [0027].

[5] Disclosure p. 26 line 1 of para. [0026] through line 9 of para. [0027].

[6] Disclosure p. 1 lines 1-8 of para. [0002].

bidders, a first sub-sample comprising bid data associated with auctions having more bidders than all other sub-samples.[7] The method further comprises applying an inverse bid function to the largest sub-sample to produce initial pseudo values,[8] applying a direct bid function to the initial pseudo values to calculate sample bids associated with a second sub-sample that is the next largest sub-sample, in terms of number of bidders, after the first sub-sample,[9] matching bid data contained in the second sub-sample with the sample bids to produce second pseudo values,[10] and combining the first and second pseudo values together to produce combined auction values.[11]

In accordance with the invention of claim 9, a system comprises a processor[12] and memory containing an auction application that is executed by the processor[13] and causes the processor to perform various tasks. Such tasks include forming a plurality of sub-samples from an auction data set, each sub-sample comprising bid data associated with auctions having a common number of bidders,[14] applying an inverse bid function to at least two sub-samples,[15] and aggregating results from applying the inverse bid function to form a first pool.[16] The process is also causes to apply a direct bid function on the first pool to generate sample bids,[17] match bids from at least one sub-sample to the sample

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[7] Fig. 2 (66, 68). Fig. 3 (100a-c). Disclosure p. 6 lines 1-24 of para. [0024].

[8] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[9] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[10] Disclosure p. 26 line 1 of para. [0026] through line 9 of para. [0027].

[11] Disclosure p. 1 lines 1-8 of para. [0002].

[12] Fig. 4 (202). Disclosure p. 8 line 3 of para. [0031].

[13] Fig. 4 (204, 220). Disclosure p. 8 lines 3-7 of para. [0031].

[14] Fig. 2 (66, 68). Fig. 3 (100a-c). Disclosure p. 6 lines 1-24 of para. [0024].

[15] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[16] Fig. 2 (82). Fig. 3 (108). Disclosure p. 7 lines 11-13 of para. [0026]. Page 8 lines 5-10.

[17] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

bids,[18] and aggregate results from the matching with the first pool to form a second pool.[19]

In accordance with the invention of claim 12, a system comprises a processor[20] and an application executable by the processor[21] and that causes the processor to organize previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders.[22] The processor is also causes to apply an inverse bid function to at least two sub-samples,[23] re-sample results from applying the inverse bid function to generate re-sampled data,[24] apply a direct bid function on the sampled data to generate sample bids,[25] and match bids from at least one sub-sample to the sample bids.[26]

In accordance with the invention of claim 14, a computer readable storage medium storing instructions that when executed by a processor cause the processor to process auction data.[27] The instructions comprise at least one instruction that organizes previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders[28] and at least one instruction that applies a first bid function to at least two sub-samples.[29] The instructions further comprise at least one instruction that re-samples results from applying the first bid function to

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[18] Disclosure p. 26 line 1 of para. [0026] through line 9 of para. [0027].

[19] Disclosure p. 1 lines 1-8 of para. [0002].

[20] Fig. 4 (202). Disclosure p. 8 line 3 of para. [0031].

[21] Fig. 4 (220). Disclosure p. 8 lines 6-7 of para. [0031].

[22] Fig. 2 (66, 68). Fig. 3 (100a-c). Disclosure p. 6 lines 1-24 of para. [0024].

[23] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[24] Disclosure p. 7 lines 1-9 of para. [0027].

[25] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[26] Disclosure p. 26 line 1 of para. [0026] through line 9 of para. [0027].

[27] Fig. 4 (204, 220). Disclosure p. 8 lines 3-7 of para. [0031].

[28] Fig. 2 (66, 68). Fig. 3 (100a-c). Disclosure p. 6 lines 1-24 of para. [0024].

[29] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

generate re-sampled data,[30] at least one instruction that applies a second bid function on the sampled data to generate sample bids,[31] and at least one instruction that matches bids from at least one sub-sample to the sample bids.[32]

In accordance with the invention of claim 17, a computer readable storage medium storing instructions that when executed by a processor cause the processor to process auction data.[33] The instructions comprise at least one instruction that forms previously acquired auction data into a plurality of sub-samples, each sub-sample comprising auction data associated with auctions having a common number of bidders, a first sub-sample comprising bid data associated with auctions having more bidders than all other sub-samples.[34] The instructions further comprise at least one instruction that applies an inverse bid function to the largest sub-sample to produce initial pseudo values,[35] at least one instruction that applies a direct bid function to the initial pseudo values to calculate sample bids associated with a second sub-sample that is the next largest sub-sample, in terms of number of bidders, after the first sub-sample,[36] at least one instruction that matches bid data contained in the second sub-sample with the sample bids to produce second pseudo values, and at least one instruction that combines the first and second pseudo values together to produce combined auction values.[37]

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[30] Disclosure p. 7 lines 1-9 of para. [0027].

[31] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[32] Disclosure p. 26 line 1 of para. [0026] through line 9 of para. [0027].

[33] Fig. 4 (204, 220). Disclosure p. 8 lines 3-7 of para. [0031].

[34] Fig. 2 (66, 68). Fig. 3 (100a-c). Disclosure p. 6 lines 1-24 of para. [0024].

[35] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[36] Disclosure p. 4 line 1 of para. [0016] through p. 6 line 1 of para. [0025].

[37] Disclosure p. 26 line 1 of para. [0026] through line 9 of para. [0027].

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-19 are anticipated (35 U.S.C. § 102(b)) by Ausubel (U.S. Pat. No. 6,021,398).

VII. ARGUMENT

A. Anticipation rejection of claims 1-19 over Ausebel

1. Claims 1-19

Claim 1 is as follows:

A method of analyzing auction data, comprising:
organizing previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders, the number of bidders varying among the sub-samples;
applying an inverse bid function to at least two sub-samples;
pooling results from applying the inverse bid function to form a first pool;
applying a direct bid function on the first pool to generate sample bids;
matching bids from at least one sub-sample to the sample bids; and
pooling results from the matching with the first pool to form a second pool.

The Examiner believes claim 1 to be anticipated by Ausebel and thus that Ausebel discloses each and every limitation of claim 1. Appellants disagree for multiple reasons.

Claim 1 requires that previous auction data is organized into a plurality of sub-samples and that "each sub-sample comprising bid data associated with auctions having a common number of bidders, the number of bidders varying among the sub-samples." For this quoted limitation, the Examiner cited Ausebel at col. 6 lines 39-43 which provides:

> A message is a signal or data sent from the auctioneer's system to user i's system. A message may include (but is not required to include or restricted to including) each of the following: the current proposed terms of trade for the auction (e.g. prices and/or quantities), information about the history of bidding (e.g. the total quantity bidders demanded in response to the previous message, the number of remaining bidders, or their identities), an indicator of whether the auction is still in process, a time stamp, the identity of the bidder to whom the message is directed, and information used for security purposes. The set of possible messages includes the null message.

Appellants fail to understand how that passage from Ausebel teaches that sub-samples of auction data in which each sub-sample comprises bid data for auctions having the same number of bidders, with the number of bidders varying

from one sub-sample to the next. Appellants do not believe that Ausebel at all teaches this claim limitation.

Claim 1 also requires "applying an inverse bid function to at least two sub-samples." The Examined used Ausebel at col. 6 lines 50-51 for this limitation. Those two lines specify that "[b]idding information may include a bidding rule such as a scalar-value, vector-value or function...." That passage, or elsewhere in Ausebel, does not at all teach or even allude to the use of an inverse bid function.

Claim 1 further requires "pooling results from applying the inverse bid function to form a first pool." The Examined used Ausebel at col. 6 lines 60-63 for this limitation. Those lines specify that "[b]idding rule may indicate the willingness to make an unconditional bid or a contingent bid, and may consist of a function based on available information as to bid quantities...." That passage, or elsewhere in Ausebel, does not all teach or even suggest pooling results from applying the inverse bid function to form a first pool.

Claim 1 also requires "applying a direct bid function on the first pool to generate sample bids." The Examined used Ausebel at col. 6 lines 60-63 for this limitation. The Examiner used this same passage of Ausebel for allegedly teaching a different claim limitation ("pooling results from applying the inverse bid function to form a first pool"). Even if the quoted passage from Ausebel did teach "pooling results from applying the inverse bid function to form a first pool" (which Appellants dispute as discussed above), that very same passage certainly cannot be said to teach a different limitation. At any rate, col. 6 lines 60-63 ("[b]idding rule may indicate the willingness to make an unconditional bid or a contingent bid, and may consist of a function based on available information as to bid quantities") does not at all teach "applying a direct bid function on the first pool to generate sample bids."

The last two limitations of claim 1 comprise "matching bids from at least one sub-sample to the sample bids" and then "pooling results from the matching with the first pool to form a second pool." For both of these limitations, the Examiner cited to col. 33 lines 19-22 of Ausebel. Appellants fail to understand how the quoted passage, if it did indeed teach "matching bids from at least one

sub-sample to the sample bids," could also be said to teach a different limitation ("pooling results from the matching..."), or vice versa. At any rate, the quoted passage mentions "compare[ing] current maximized bid revenues M with a function of the maximized bid revenues obtained in previous iteration(s) of the loop... ." Comparing maximized bid revenues between iterations of a loop is not at all the same as matching bids from at least one sub-sample to the sample bids as required by the claim. Further, there is no teaching at col. 33 lines 19-22, or elsewhere in Ausebel of pooling the results from the matching with the first pool to form a second pool.

For any or all of these reasons, the Examiner erred in rejecting claim 1 and its dependent claims over Ausebel. The remaining independent claims and their dependent claims contain one or more of the limitations discussed above and thus are allowable for much the same reasons.

2. Additional reasons why claims 5-7 and 17-19 are allowable

Additional reasons exist to support the patentability of independent claims 5 and 17. Claim 5 requires "combining the first and second pseudo values together to produce combined auction values." Claim 17 similarly requires "at least one instruction that combines the first and second pseudo values together to produce combined auction values." The Examiner used col. 6 lines 50-51 for this limitation. However, the Examiner used these two lines of Ausebel as allegedly teaching a completely different limitation. In claim 1, the Examiner alleged that col. 6 lines 50-51 taught "applying an inverse bid function to at least two sub-samples." Appellants fail to understand the Examiner's logic. Specifically, if "[b]idding information may include a bidding rule such as a scalar-value, vector-value or function" (Ausebel col. 6 lines 50-51) teaches "applying an inverse bid function to at least two sub-samples," Appellants fail to understand how that same passage from Ausebel can also be said to teach "combining the first and second pseudo values together to produce combined auction values" as in claims 5 and 17. At any rate, the quoted passage from Ausebel has no such teaching for the quoted limitation of claims 5 and 17.

For this additional reason, the Examiner erred in rejecting claims 5 and 17 and their dependent claims.

B. Conclusion

For the reasons stated above, Appellants respectfully submit that the Examiner erred in rejecting all pending claims. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. (Original) A method of analyzing auction data, comprising:

organizing previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders, the number of bidders varying among the sub-samples;

applying an inverse bid function to at least two sub-samples;

pooling results from applying the inverse bid function to form a first pool;

applying a direct bid function on the first pool to generate sample bids;

matching bids from at least one sub-sample to the sample bids; and

pooling results from the matching with the first pool to form a second pool.

2. (Original) The method of claim 1 wherein applying the inverse bid function comprises applying a function that is applicable to an independent private values ("IPV") auction.

3. (Original) The method of claim 1 wherein applying the direct bid function comprises applying a function that is applicable to an independent private values ("IPV") auction.

4. (Original) The method of claim 1 wherein organizing comprises forming a first group of large sub-samples and a second group of small sub-samples, the small sub-samples containing bid data associated with auctions that have fewer than a pre-specified total number of bid observations and the large sub-samples containing bid data associated with auctions that have more than a pre-specified total number of bid observations.

5. (Original) A method, comprising:

organizing previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders, a first sub-sample comprising

bid data associated with auctions having more bidders than all other sub-samples;

applying an inverse bid function to the largest sub-sample to produce initial pseudo values;

applying a direct bid function to the initial pseudo values to calculate sample bids associated with a second sub-sample that is the next largest sub-sample, in terms of number of bidders, after the first sub-sample;

matching bid data contained in the second sub-sample with the sample bids to produce second pseudo values; and

combining the first and second pseudo values together to produce combined auction values.

6. (Original) The method of claim 5 further comprising applying the direct bid function to the combined auction values to calculate additional sample bids associated with a third sub-sample that is the next largest sub-sample after the second sub-sample, in terms of number of bidders.

7. (Original) The method of claim 6 further comprising matching the additional sample bids with the third sub-sample to produce third pseudo values and combining the third pseudo values into the combined auction values.

8. (Original) The method of claim 7 further comprising applying the direct bid function to calculate additional sample bids associated with additional sub-samples of decreasing size, in terms of the number of bidders, matching the sample bids to the additional sub-samples to produce additional pseudo values, combining the additional pseudo values into the combined auction values.

9. (Original) A system, comprising:

a processor;

memory containing an auction application that is executed by the processor and causes the processor to

form a plurality of sub-samples from an auction data set, each sub-sample comprising bid data associated with auctions having a common number of bidders;

apply an inverse bid function to at least two sub-samples;

aggregate results from applying the inverse bid function to form a first pool;

apply a direct bid function on the first pool to generate sample bids;

match bids from at least one sub-sample to the sample bids; and

aggregate results from the matching with the first pool to form a second pool.

10. (Original) The system of claim 9 wherein the inverse bid function comprises a function that is applicable to an independent private values ("IPV") auction.

11. (Original) The system of claim 9 wherein the direct bid function comprises a function that is applicable to an independent private values ("IPV") auction.

12. (Original) A system, comprising:

a processor;

an application executable by said processor and that causes the processor to

organize previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders;

apply an inverse bid function to at least two sub-samples;

re-sample results from applying the inverse bid function to generate re-sampled data;

apply a direct bid function on the sampled data to generate sample bids; and

match bids from at least one sub-sample to the sample bids.

13. (Original) The system of claim 12 wherein the inverse and direct bid functions comprise functions that are applicable to an independent private values ("IPV") auction.

14. (Original) A computer readable storage medium storing instructions that when executed by a processor cause the processor to process auction data, said instructions comprising:

at least one instruction that organizes previously acquired auction data into a plurality of sub-samples, each sub-sample comprising bid data associated with auctions having a common number of bidders;

at least one instruction that applies a first bid function to at least two sub-samples;

at least one instruction that re-samples results from applying the first bid function to generate re-sampled data;

at least one instruction that applies a second bid function on the sampled data to generate sample bids; and

at least one instruction that matches bids from at least one sub-sample to the sample bids.

15. (Original) The storage medium of claim 14 wherein the first bid function comprises an inverse bid function.

16. (Original) The storage medium of claim 14 wherein the second function comprises a direct bid function.

17. (Original) A computer readable storage medium storing instructions that when executed by a processor cause the processor to process auction data, said instructions comprising:

at least one instruction that forms previously acquired auction data into a plurality of sub-samples, each sub-sample comprising auction data associated with auctions having a common number of bidders, a first sub-sample comprising bid data associated with auctions having more bidders than all other sub-samples;

at least one instruction that applies an inverse bid function to the largest sub-sample to produce initial pseudo values;

at least one instruction that applies a direct bid function to the initial pseudo values to calculate sample bids associated with a second sub-sample that is the next largest sub-sample, in terms of number of bidders, after the first sub-sample;

at least one instruction that matches bid data contained in the second sub-sample with the sample bids to produce second pseudo values; and

at least one instruction that combines the first and second pseudo values together to produce combined auction values.

18. (Original) The storage medium of claim 17 further comprising an at least one instruction that applies the direct bid function to the combined auction values to calculate additional sample bids.

19. (Original) The storage medium of claim 17 further comprising matching the additional sample bids with a sub-sample to produce additional auction values.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.